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REMARKS

Claims 1-28 were pending in the application. Claims 7-14 and claims 21-28 have been canceled. Claims 1-6, 15-17, and 19 have been amended herein. Claims 29-32 have been added. Favorable reconsideration of the application, as amended, is respectfully requested.

I. Claim Objections

Claims 7, 15, 17, 19, 23-25, 27, and 28 are objected to for various informalities.

Claims 7, 23-25, 27, and 28 have been cancelled. Claims 15, 17, and 19 have been amended to correct the objected to language.

II. REJECTION OF CLAIMS UNDER 35 USC § 102

Claims 1-2, and 15-16 stand rejected under 35 USC 102(e) based on being anticipated by US Patent 6,697,377 to Ju.

Claims 7-14 and 21-28 stand rejected under 35 USC 102(e) based on being anticipated by US Published Application 2004/0252683 to Kennedy. Claims 7-14 and 21-28 have been cancelled.

Ju teaches use of tunneling servers (TAT servers) for relay of media streams between two clients (referred to as host devices). A TAT is associated with each firewall or network address translation (NAT) server C6, L8-L12).

The TAT may run on the same hardware as the firewall (coupled to both the internal network and the IP network) or on dedicated hardware coupled to the local area perimeter network or the firewall. This is a requirement for the TAT to be able to initiate the Q.931 connections to a clients Q.931 port on the private network and the H.245 protocol connections to client on the private network without having to traverse the firewall (steps 216 and steps 122 of Ju Figure 7).

In accordance with Ju, the RTP channels used for the UDP data stream are fully negotiated using the H.245 protocols and there is no need, nor teaching of,

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extracting an IP address and port number from a IP frame of the media stream (sent outbound through a NAT by a device on a private network) to determine an IP address of the NAT and a "reverse channel" for sending IP frames inbound through the NAT to the device on the private network.

Further, in accordance with Ju, if both clients are behind NAT firewalls (Ju Figure 3b) the media session is relayed through both TATs (one TAT associated with each firewall). This doubles any delay that may be introduced by relaying.

Independent Claims 1 and 15

Claim 1, as amended, is directed to a method of operating a server for communicating real time media data between a first client and a second client. The method comprises ten (10) steps useful setting up real time protocol (RTP) channels for relay of a media session between two clients and performing the relay of media data there between.

Independent claim 15, as amended is directed to a server for communicating real time media data between a first client and a second client. The server includes a media communication application performing steps similar to those of the method of claim 1.

With reference to Figure 2a as an example, the method of claim 1 and the steps performed by the media communication application of claim 15 comprise:

- a) receiving a first RTP channel request (38) from a first proxy server (14a) with which the first client (30a) is registered, the first proxy server generating the RTP channel request in response to receiving a first invite signaling message (36) from the first client;
- b) establishing a first RTP channel to support relay of a media session between the first client (30a) and the second client (30d) and providing an indication of the first RTP channel to the first proxy server (step 40) in response to receiving the first RTP channel request;
- c) receiving a second RTP channel request (step 48) from a second proxy server (14b) with which the second client (30d) is registered;

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d) establishing a second RTP channel to support relay of a media session between the first client (30a) and the second client (30d) and providing an indication of the second RTP channel to the second proxy server (step 50) in response to the second RTP channel request;

e) receiving a second media datagram originated by second client and addressed to the first RTP channel by the second client (step 70), the first RTP channel being communicated to the second client by:

the first proxy server (14a) sending a second invite signaling message (step 42) to the second proxy server (14b), the second invite signaling message indicating the first RTP channel as the destination to which the second client is to address media datagrams; and

the second proxy server (14b) sending a third invite signaling message (step 44) to the second client (30b), the third invite signaling message indicating the first RTP channel as the destination to which the second client is to address media datagrams;

f) receiving a first media datagram originated by the first client and addressed to the second RTP channel (step 66), the second RTP channel being communicated to the first client by:

the second proxy server (14b) sending a response signaling message (step 52) to the first proxy server (14a), the response signaling message indicating the second RTP channel as the destination to which the first client (30a) is to address media datagrams; and

the first proxy server (14a) sending a second response signaling message (step 54) to the first client (30a), the second response signaling message indicating the second RTP channel as the destination to which the first client is to address media datagrams;

g) extracting a first client source network address from the first media datagram originated by the first client;

h) extracting a second client source network address from the second media datagram originated by the second client;

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- i) sending a third media datagram to the first client source network address, wherein the third media datagram includes media data from media datagrams received from the second client on the first RTP channel; and
- j) sending a fourth media datagram to the second client source network address, wherein the fourth media datagram includes media data from media datagrams received from the first client on the second RTP channel.

Ju does not disclose the unique steps associated with communicating RTP channels of the server to each of the two clients and the steps of extracting source network addresses for performing the relay.

Further, although US Published Application 2004/0252683 to Kennedy teaches source IP address and port extraction, Ju, even in combination with Kennedy fails to disclose the unique steps associated with communicating RTP channels of the server to each of the two clients and the steps of extracting source network addresses for performing the relay.

In fact, Kennedy even teaches away from the applicants invention of operating a relay server for relaying the RTP frames of the media session between two clients. At Page 1, paragraph 12 Kennedy indicates that routing media packets through a server on a public network is an unacceptable approach since an additional delay would be introduced which could result in unacceptable voice delay or even fragmented speech.

It also must be noted that the teachings of Kennedy WILL NOT WORK in a situation wherein the NAT will reverse translate an inbound frame that is not a true "response frame" – meaning that the inbound frame includes a source IP address and port number which are the same as destination IP address and port number of the outbound frame sent by the NAT.

Kennedy will not work in this situation because the device that performs the extraction, the application server 105, provides the extracted IP address and port to a different device (e.g. Client B for example) so that - in theory – Client B can

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provide an IP frame to Client A by addressing to the extracted public IP address of NAT A the port number (see Figures 7a through Figure 7c and reference Page 4, paragraph 48). The problem is that the IP frame sent by Client B is not a true response frame and may not be reverse translated by the NAT because it is not sent from the same IP address and port number (of the server 105) to which original frame was sent.

The applicants invention, easily functions in such situations and the additional claim limitations set forth in new dependent claims 29-32 specifically claim the steps necessary for functioning in such a situation. The specification support for the new claims is at Page 20, Lines 4-5 and Line 16.

Claims 2 and 16.

Claims 2 and 16 each depend from Claims 1 or 15 and can be distinguished over Ju and the other art of record for at least the same reasons.

III. REJECTION OF CLAIMS UNDER 35 USC § 103

Claims 3-6, and 17-20 stand rejected under 35 USC 103(a) as being unpatentable over Ju in view of US Published Application 2002/0141389 to Fangman.

Each of claims 3-6 and 17-20 depend from one of the independent claims 1 and 15. Independent claims 1 and 15, as amended and discussed above, disclose unique steps associated with communicating RTP channels of the server to each of the two clients and the steps of extracting source network addresses for performing the relay.

Fangman discloses a system which uses a Service Gateway 170 which, like the TAT of Ju, co-locates with a NAT. The Service Gateway 170 effectively becomes the NAT for facilitating VoIP telephone calls by performing a function calls Network Address Persistent Port Translation (see Page 5, paragraph 59 to

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63). Fangman does not disclose relay of the media session through a server and the unique steps for steps associated with communicating RTP channels of the server to each of the two clients (each of which communicates through a traditional NAT) and the steps of extracting source network addresses for performing the relay.

As such, neither Ju, Fangman, Kennedy, nor the other art of record teaches the method and device of independent claims 1 and 15, or the claims that depend there from.

IV. CONCLUSION

Accordingly, claims 1-6, 15-20, and 29-32 are believed to be allowable and the application is believed to be in condition for allowance. A prompt action to such end is earnestly solicited.

Should the Examiner feel that a telephone interview would be helpful to facilitate favorable prosecution of the above-identified application, the Examiner is invited to contact the undersigned at the telephone number provided below.

Should a petition for an extension of time be necessary for the timely reply to the outstanding Office Action (or if such a petition has been made and an additional extension is necessary), petition is hereby made and the Commissioner is authorized to charge any fees (including additional claim fees) to Deposit Account No. 501825.

Respectfully submitted,



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DATE: 3-4-06

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